Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0119**

Project **SR-HL09 / Tank Farm Service Upgrades**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

THE SCOPE OF WORK DESCRIBED IN THIS PROJECT IS WRITTEN FOR FUNDING AT THE PLANNING LEVEL. This project includes three infrastructure maintenance upgrades which are crucial in maintaining the operating integrity of an aging tank farm as SRS transitions from safe storage of waste (which began in 1951) to an active program of waste removal and vitrification, which is projected to last until FY2026. This project has three parts. PARTS 1 & 2: H-Area West Hill service piping and gang valve house upgrades will replace buried service piping with easy-access trenches and above-ground pipe racks, thereby eliminating costly repairs to leaking, buried pipes and will replace the existing gang valve house (for Tanks 35-37) with 3 new gang valve houses. PART 3: F-Area electrical upgrades will alleviate overload conditions on a transformer and automatic transfer switch which cause power interruptions and associated unplanned work outages. TECHNICAL APPROACH involves standard industrial equipment and materials.

Project Status in FY 2006:

The Tank Farm Services Upgrade project will be completed by the end of FY99.

Post-2006 Project Scope:

None.

Project End State

The project will end in FY99 when all these upgrades are complete.

Cost Baseline Comments:

Project will be completed in FY99.

Safety & Health Hazards:

The main hazard in this facility is from the highly radioactive liquid waste (33 million gallons, 450 million Ci) stored in 46 underground storage tanks. The main radioactive constituents of this waste are Strontium-90, Cesium-137, Plutonium-238, Plutonium-239, and Plutonium-241. The tanks were built underground to provide shielding from the intense radiation fields of this highly toxic waste. This project work is done under radiological conditions to avoid direct personnel exposure and prevent contamination.

Other hazards include exposure to process chemicals (such as nitric acid and sodium hydroxide) as well as miscellaneous hazards commonly encountered in industrial settings (lifting, tripping, falls, rotating equipment, etc.). These hazards are controlled both through engineering controls (hand rails, motor guards, etc.) and through administrative controls (policies and procedures, training, personal protective equipment, etc.).

Safety & Health Work Performance:

All work is performed using a WSRC Integrated Safety Management System (ISMS) approach. The ISMS integrates safety considerations into

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Project Description Narratives

management and work practices at all levels to accomplish missions while protecting the public, the worker, and the environment. The key elements of the WSRC ISMS are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the ISMS. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, disciplined site-wide approach to safety while performing work.

PBS Comments:

Funding for this project is at the level necessary to ensure safe storage and management of the liquid high level radioactive waste and to meet an overall system production of 200 canisters per year from FY98-04, 225 canisters in FY05, 250 canisters per year from FY06-14, 200 canisters per year from FY15-23, and 72 canisters in FY24. Reductions in Tank Farm Safety Projects funding would directly impact Waste Removal (Project SR-HL03), because completion of Tank Farm Safety Projects is integral to the ability of H and F Tank Farm (Projects SR-HL01 and 02) to safely store and remove waste.

The major drivers for this project are:
- Stakeholders - The continued storage of liquid, high-level radioactive waste in underground tanks is the major concern of the SRS stakeholders. One of our major stakeholders, the SRS Citizen's Advisory Board, considers the continued storage of this liquid high level radioactive waste in underground tanks at SRS one of the greatest risks to the public, workers, and the environment. This group further stated that processing this waste into glass should be given high priority by DOE.
- Federal Facilities Agreement (FFA) - The removal of all waste from tanks that do not meet current secondary containment requirements by the year 2028. (This date, however, is now being rejected by the state as not aggressive enough. Negotiations are underway to establish a more aggressive commitment date that will meet regulatory expectations while balancing technical and resource limitations.)
- Site Treatment Plan - The Site Treatment Plan for SRS includes the following commitments for DWPF (Vitrification, SR-HL05): "Upon the beginning of full operations, DWPF must maintain an average of 200 canisters of processed glass per year to meet the commitment for the removal of backlogged and currently generated waste inventory by 2028." This requires F-Tank Farm and H-Tank Farm operation to be funded at the level necessary to maintain safe storage of waste as well as operation of waste transfer and waste evaporation systems to support this production rate in DWPF (i.e., The Tank Farms must receive, evaporate, and store recycle waste from DWPF as well as provide feed stock for DWPF).
- DNFSB Recommendation 94-1 - Nuclear materials to be used in nuclear weapons that were in the manufacturing pipeline when production was halted requires treatment on an accelerated basis to convert them to forms more suitable for safe interim storage. In order to process some of this material, the F & H Canyons must operate and the resulting waste must be received, volume reduced, and safely stored. Continued safe storage of waste in H and F Tank Farms is required for Canyon operation.

Baseline Validation Narrative:

Review by DOE-SR.

General PBS Information

Project Validated?	Yes	**Date Validated:**	3/6/1998

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General PBS Information

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/3/1999

FEDPLAN Project? Yes

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
	N	N	Y	N	N	Y	N	N

Project Identification Information

DOE Project Manager: H. B. Gnann

DOE Project Manager Phone Number: 803-208-6076

DOE Project Manager Fax Number: 803-208-7414

DOE Project Manager e-mail address: howard.gnann@srs.gov

Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	8,855	0	8,855	3,563	3,563	3,702	3,702	1,590	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	8,855	0	8,855	3,563	3,563	3,702	3,702	1,590	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	8,855	0	8,855	3,563	3,563	3,702	3,702	1,590	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	8,855	0	8,855	3,563	3,563	3,702	3,702	1,590	0	0	0	0	0	0	0

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	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/30/1999

Current Projected End Date of Project: 9/30/1999

Explanation of Project Completion Date Difference (if applicable):

Project Cost Estimates (in thousands of dollars)

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Project Reconciliation

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	13,394	**Actual 1997 Cost:**	3,563	**Actual 1998 Cost:**	3,702
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	6,129	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			165
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	6,294				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):	3,000	Deleted cooling scope in H Tank Farm.
Cost Reductions Due to Efficiencies (-):	1,706	Innovative Design and Construction Project execution.
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	1,588	
Additional Amount to Reconcile (+):	2	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**1,590**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Project Completion	SR-HL09-099		9/30/1999								
Project Start	SR-HL09-001		10/1/1996								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Project Completion	SR-HL09-099				Y						
Project Start	SR-HL09-001			Y							

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